

What is claimed is:

- 5 1. A fuel composition for an internal combustion engine, comprising:
(A) a major amount of a fatty carboxylic acid ester composition from the transesterification of at least one naturally occurring triglyceride; and
(B) a minor amount of a low temperature operability composition comprising an esterified copolymer of an alpha-olefin or styrene and an alpha, beta-unsaturated
10 monocarboxylic or dicarboxylic acid or anhydride, wherein the copolymer of (B) is esterified with a mixture of two or more alcohols having 5 to 28 carbon atoms wherein the mixture of the two or more alcohols has an average carbon length of 9.2 to 11.8 on a weight % basis.
- 15 2. The fuel composition of claim 1 wherein the naturally occurring triglyceride is a vegetable oil.
3. The fuel composition of claim 2 ~~wherein the~~ vegetable oil is a rapeseed oil, a soybean oil, a palm oil, or a mixture thereof.
- 20 4. The fuel composition of claim 1 ~~wherein the~~ naturally occurring triglyceride is transesterified with at least one monohydric alcohol having 1 to 22 carbon atoms.
5. The fuel composition of claim 3 ~~wherein the~~ rapeseed oil, the soybean oil,
25 the palm oil, or the mixture thereof is transesterified with methanol.
6. The fuel composition of claim 1 wherein the alpha, beta-unsaturated monocarboxylic or dicarboxylic acid or anhydride is maleic acid, maleic anhydride, fumaric acid, itaconic acid, itaconic anhydride, acrylic acid, or methacrylic acid.
- 30 7. The fuel composition of claim 6 wherein the copolymer of (B) is formed from styrene and maleic anhydride.

8. The fuel composition of claim 7 wherein the copolymer of (B) prior to esterification has a reduced specific viscosity of 0.05 to 2.

9. The fuel composition of claim 1 wherein the copolymer of (B) further comprises an additional comonomer selected from the group consisting of a C₁₋₄ alkyl alpha, beta-unsaturated monocarboxylic acid ester, a di(C₁₋₄ alkyl) alpha, beta-unsaturated dicarboxylic acid ester, a vinyl monocarboxylic acid ester, an alkyl vinyl ether, and a mixture thereof.

10. The fuel composition of claim 9 wherein the additional comonomer is methyl methacrylate.

11. The fuel composition of claim 1 wherein the copolymer of (B) is esterified with a mixture of two or more alcohols having 5 to 20 carbon atoms.

12. The fuel composition of claim 1 wherein the esterified copolymer of (B) is further reacted with an amine having only one amino group that is a primary or a secondary amino group.

13. The fuel composition of claim 1 wherein the ester composition (A) is present in the fuel composition from 30 to 99.99% by weight and the low temperature operability composition (B) is present in the fuel composition from 100 to 10,000 ppm by weight.

14. The fuel composition of claim 1, further comprising:
(C) at least one additional fuel additive.

15. The fuel composition of claim 1, further comprising:
(D) a normally liquid fuel.

16. The fuel composition of claim 15 wherein the normally liquid fuel is a diesel fuel.

17. A method for improving the low temperature operability of a fuel
5 composition, comprising:

admixing the ester composition (A) with a low temperature improving
amount of the composition (B) of claim 1.